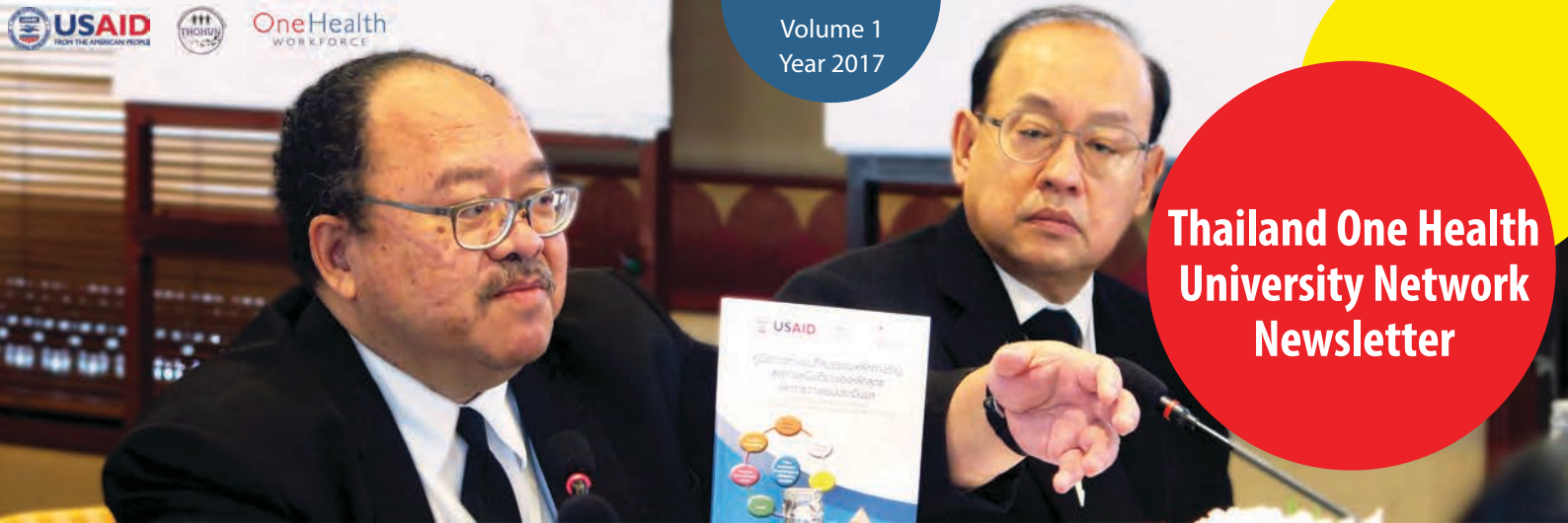
Volume 1
Year 2017

Thailand One Health University Network Newsletter



Antimicrobial Resistance News

Researchers find drug-resistant bacteria in air samples

Polluted city air has now been identified as a possible means of transmission for resistant bacteria. Joakim Larsson and his colleagues, researchers in Gothenburg have shown that over 800 air samples from Beijing contain DNA that make bacteria resistant to the most powerful antibiotics we have.

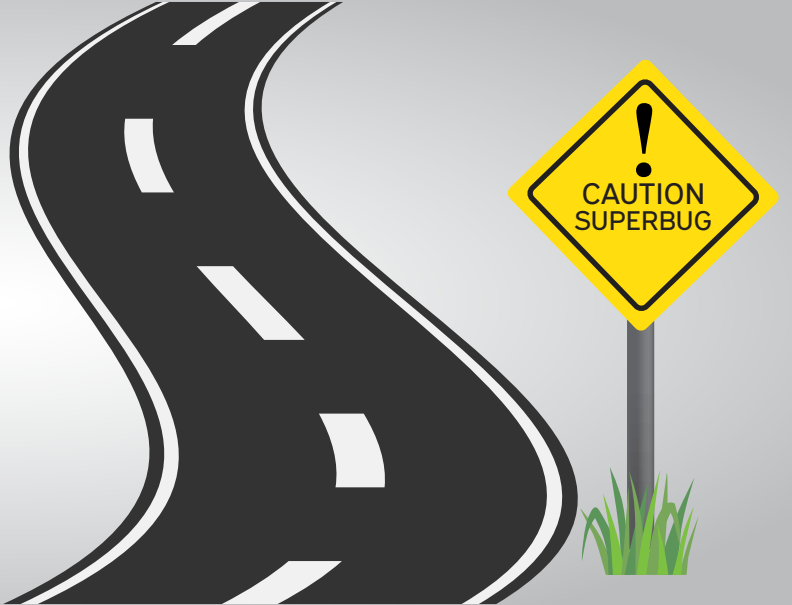
His team has previously received attention for their research on waterborne release of antibiotics from pharmaceutical production in India, which was shown to trigger the development of resistant bacteria.

In this new study, the researchers looked for genes that make bacteria resistant to antibiotics in a total of 864 samples of DNA collected from humans, animals, and different environments worldwide.

"We studied only a small number of air samples, so to generalize, we need to examine the air from more places. But the air samples we did analyze showed a wide mix of different resistance genes. Of particular concern is that we found a series of genes that provide resistance to carbapenems, a group of last resort antibiotics taken for infections caused by bacteria that are often very difficult to treat", says Larsson.

The next step for the research is to find out if resistance spreads through air from European sewage treatment plants. This research will be carried out within the framework of a larger collaborative international project that has just been selected for funding by the Joint Programming Initiative on Antimicrobial Resistance (AMR) from the Swedish Research Council.

Retrieved from: http://www.news-medical.net/news/20161121/Researchers-find-drug-resistant-bacteria-in-air-samples.aspx



As antimicrobial resistance has been recognized as an important, serious, and urgent health threat in Thailand over the past few decades. In 2017, THOHUN will implement five activities designed to build awareness, transfer knowledge and skills, and provide applied learning experiences to both current and future workforces in AMR in Thailand. The participants are expected to increase the awareness and apply knowledge and skills from these activities on their current or future roles. THOHUN's AMR-related activities comprise of:

- **Development of AMR training module for health sciences (nursing, medical technology, pharmacy, etc.) and veterinary students**
- **Short course training in AMR in ambulatory care**
- **Review and revision of short course for human and animal health workers - training of OH approach to AMR**
- **Pilot of short course training for human and animal health workers- Training of OH approach to AMR**
- **Assessment of antibiotic prescribing patterns – pilot with human and animal health practitioners**

Together, we are stronger

In 2017, the Thailand One Health University Network (THOHUN) continues to strengthen training and educational programs of member universities in Thailand to create competent workforces to prevent, detect, and respond to emerging infectious diseases by using a multidisciplinary and multi-sectoral collaboration approach called "One Health" (OH). We collaborate with Thai universities and colleges, government agencies, local communities, and OH University Networks in other countries who constitute the participants in THOHUN activities. To build multidisciplinary capacities among current and future workforces aligning with the government sector's needs, we develop activities by integrating OH Core Competencies into in-service programs or routine work practices for current workforce and into existing curricula for future workforce. Such efforts are expected to facilitate continuous development and improve academic offerings to achieve "Thailand One Health".

Since 2014, deans of THOHUN's member universities and Emerging Pandemic Threats Program 2 partners meet to keep them abreast of THOHUN projects and activities as well as to maintain a strong "One Health collaborative network" (pursuant to the 2016 Memorandum of Understanding among 7 Thai ministries; Ministry of Agriculture and Cooperatives, Ministry of Natural Resources and Environment, Ministry of the Interior, Ministry of Social Development and Human Security, Ministry of Labor, Ministry of Education, Ministry of Public Health and the Thai Red Cross. On December 20, 2016 in Bangkok, Thailand, the Deans and Partner meeting was organized to further widen collaboration among partners from other sectors; THOHUN university/faculty members, representatives of Thai One Health network such as Ministry of Public Health, Ministry of Agriculture and Cooperatives, and representatives from the One Health Workforce project (OHW) and the Southeast Asia One Health University Network (SEAOHUN).

Multi-Sectoral Collaboration and Professional Networking

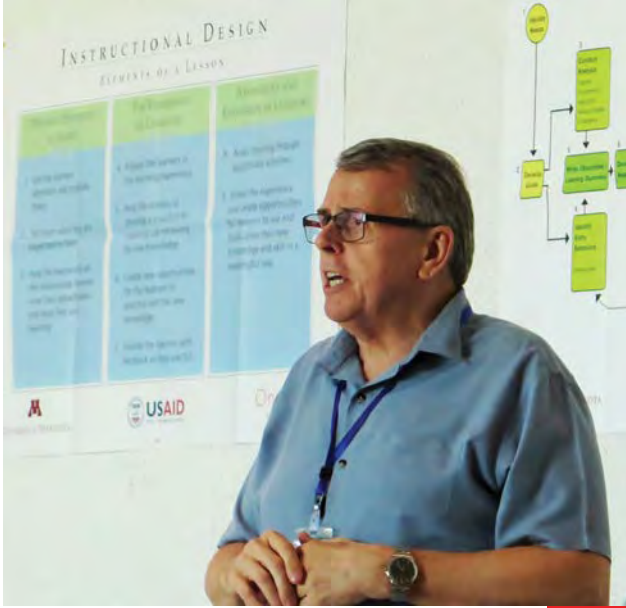
THOHUN Deans and Partners Meeting

Learning without Limits in the 21st Century

E-learning has been identified as an effective and creative way of learning with the advantage of flexibility in terms of time, content, and the pace and manner of delivery. Two of THOHUN's e-learning programs: "Online course for future OHW in emerging and re-emerging zoonotic diseases" and "Online training course for implementation research in health" were developed during in 2015-2016. This year, THOHUN organized a five-day workshop from January 16-20 to strengthen capacity in e-learning development of lecturers, e-learning support staff, and IT personnel among THOHUN member universities. Outputs produced from the workshop are expected to improve THOHUN lecturers' capacities to produce e-learning content and offer more options to a wide variety of teaching and training to build future and current workforces.

The workshop covered several aspects of e-learning development such as the nine events of instructional design, 14-step instructional design, education product lifecycle, learning management systems, rubric scoring, design planning tool, etc. The participants learned how to build their own lessons using LodeStar™, a software package used in creating learning objects, from e-learning experts from

the University of Minnesota: Dr. Gregory Sales and Dr. Solen Feyissa. Some of the participants have planned to create e-learning courses in various topics such as *"Environmental Health", "Types of bone tumors" and "How to communicate with children".* THOHUN will provide financial support to develop courses from selected learning objects that are oriented towards One Health or Global Health Security Agenda for pilot testing and scaling up.



International Standards and One Health Workforce Development

To present the One Health Workforce Project at the world stage and promote large-scale impacts, the OHW Project was encouraged to align its direction with the Global Health Security Agenda. OHW planning strategies currently focus on the 3-Pillar Approach, as follows:

the 3-Pillar Approach

Align OHW activities with international policies and standards

Coordinate with global partners to incorporate existing tools in OHW activities

Continue to build an evidence base for howand why we train One Health

The Global Health Security Agenda (GHSA) is a partnership of over 50 nations, international organizations and public and private stakeholders. It aims at enhancing public health capacities to better prevent, detect, and respond to infectious disease threats through 11 Action Packages. Thailand, as a GHSA Phase 2 country, takes leadership on the two Actions Packages including "*Detect 1: National LaboratorybSystem Strengthening*" and "*Detect 5: Workforce Development*".

Pillar 1: Align OHW activities to meet national and international policies, standards and capacity assessments such as WHO's International Health Regulations (IHR), OIE's Performance of Veterinary Services (PVS) Pathways Assessments, and the WHO-led Joint External Evaluation (JEE)

Pillar 2: Coordinate with global partners such as Centers for Disease Control and Prevention, Food and Agriculture Organization of the United Nations and Preparedness & Response to incorporate global strategies and tools in OHW activities

Pillar 3: Continue to build and add to an evidence base for how and why we train a One Health workforce

Thailand One Health University Network: 2017 Newsletter Volume 1

Creators: Waroon Boonyaudomsart, Jitlada Vasuvat

Editors: Saengduen Moonsom, Irwin F. Chavez

Acknowledgement:

1. http://wwwassets.rand.org/content/rand/blog/2015/02/ringing-the-alarm-bell-for-antimicrobial-resistance/jcr:content/par/teaser_0.aspectfit.0x1200.jpg/1447340138244.jpg
2. Some graphics designed by Freepik

This newsletter is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of One Health Workforce implementing partners and do not necessarily reflect the views of USAID or the United States Government.

thohun.org

Thailand One Health University Network
ncothohun@thohun.org

Local: 023544189
International: +6623544189

THOHUN National Coordinating Office
9th FL, Tranakchit Harinasuta building,
420/6 Ratchawithi Road, Bangkok, 10400